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June 5, 2003

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

RE: **AT&T Wireless Services, Inc. Interim Report**

In the Matter of Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems

CC Docket No. 94-102

Dear Ms. Dortch:

As required by paragraph 13 of its *GSM Consent Decree*,[1] AT&T Wireless Services, Inc. ("AWS") hereby submits an Interim Report to advise the Commission of certain problems with vendor equipment and software that is challenging AWS' ability to satisfy the requirement that it provide Phase II service at 2,000 cell sites by June 30, 2003, as set forth in paragraph 9(a)(3) of the *GSM Consent Decree*.

As AWS explained in its May 1, 2003 Quarterly Report, it has ordered equipment from the Grayson Wireless division of Allen Telecom, Inc. ("Grayson") to provide a network-based Phase II location solution for AWS' GSM network. Grayson has informed AWS and the Commission that its technology satisfies the Phase II accuracy requirements,[2] and AWS relied "on [these] vendor representations in agreeing to the

[1] *AT&T Wireless Services, Inc.*, File No. EB-02-TS-018, NAL/Acct. No. 200232100002, FRN 0003-7665-32, Order, FCC 02-283 (rel. Oct. 9, 2002) ("*GSM Consent Decree*").

[2] Grayson has informed the Commission that its technology satisfies the Commission's Phase II accuracy requirements. *See*, *e.g.*, Letter from Eliot J. Greenwald,

deployment schedule set forth [in the *GSM Consent Decree*] and for its belief that a network-based solution will satisfy the Commission's accuracy requirements."[3] As detailed below, however, there have been a number of problems with the equipment and software supplied by Grayson, which have required AWS to extend the First Office Application ("FOA") testing of the solution. Although it appears that Grayson has just now cured most of the problems, the short time remaining before June 30, 2003 is challenging AWS' ability to accomplish full Phase II integration at 2,000 cell sites.

I. VENDOR SOFTWARE AND EQUIPMENT PROBLEMS HAVE CAUSED DELAYS IN GSM PHASE II TESTING

As AWS described in its May 1 Quarterly Report, the two FOA tests of the Grayson GSM TDOA solution in Ft. Myers, Florida (on the Nokia infrastructure) and York, Pennsylvania (on the Ericsson infrastructure) were beset by a number of problems associated with software and equipment supplied by Grayson. Because of these issues, instead of being able to conclude the testing in late March, as AWS had anticipated, the FOAs are still continuing today.

Both FOAs were delayed by problems in software used in connection with the Grayson ABIS Monitor Units ("AMUs"). The AMU, which is an integral part of the GSM TDOA solution provided by Grayson, monitors calls being placed on the GSM network and identifies 911 calls in order to trigger a Phase II location request. The AMU interfaces with AWS' network using T1 or T3 cards installed in the AMU.

During the FOA testing in Ft. Myers, AWS experienced several problems getting the AMU to work with the Nokia infrastructure. After concluding its initial tests using the T1 interface between the AMU and Nokia ABIS signaling links, AWS determined that the T1 interface was creating bit errors that degraded call quality in the Ft. Myers market. Therefore, AWS switched the ABIS links from the T1 to the T3 interface. In this case, however, AWS discovered that the software in the AMUs' T3 cards was not completely stable, which prevented the AMUs from detecting many of the 911 calls as they monitored the ABIS signaling traffic on the T3 links. AWS has been working with Grayson for the past two months to try to rectify this situation and, on Tuesday, May 27, Grayson provided new software that appears to work properly. AWS has now integrated all of the Ft. Myers sites, the system appears to be operating properly, and the Nokia FOA continues. Meanwhile, AWS' deployment teams are continuing to install the

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Swidler Berlin Shereff Friedman, LLP, to William F. Caton, Acting Secretary, FCC, CC Docket No. 94-102, at 1 (March 26, 2002); Letter from Eliot J. Greenwald, Swidler Berlin Shereff Friedman, LLP, to Magalie Roman Salas, Secretary, FCC, CC Docket No. 94-102, at 1 (May 7, 2001).

[3] *GSM Consent Decree* ¶ 9(c).

necessary equipment on the Nokia network and to integrate Phase II service with PSAPs in an effort to meet the June 30, 2003 milestones.

The FOA in York, Pennsylvania on the Ericsson infrastructure has been even more challenging. At first, AWS experienced problems installing Grayson hardware at its cell sites, which required AWS to install antenna sharing units in every cell tower where a wireless location sensor ("WLS") was deployed. After those issues were resolved, AWS discovered that the software delivered by Grayson for the AMU did not contain all of the necessary functionality to work on the Ericsson infrastructure. Nevertheless, AWS began FOA testing, with the understanding that the new software would be supplied in early March to permit completion of the FOA by the end of March. The software was not delivered to AWS until mid-April, however, and AWS has been working with Grayson ever since to validate its proper functioning in a laboratory setting. Recently, AWS was able to complete a successful test of the software on the T1 interface, but it still has not received the final version of the software for the T3 interface.

At this point, Grayson does not have enough hardware to permit AWS to integrate the Ericsson solution into its network using the T1 configuration, so AWS is dependent on Grayson's ability to fix the software problems for the T3 interface. Grayson has very recently delivered an interim version of T3 software, which may solve a number of the most significant problems. In the meantime, AWS has explored all options, including a potential interim solution that would require AWS to turn off important advanced functionality in the Ericsson infrastructure, which might allow the Grayson T3 interface to work with the existing software. Under one such alternate solution, Grayson would have to monitor its T3 configuration manually to ensure its proper functioning until a more permanent solution could be developed.

II. AWS HAS TAKEN, AND WILL CONTINUE TO TAKE, ALL STEPS POSSIBLE TO MEET THE JUNE 30, 2003 "IN-SERVICE" BENCHMARK

Even before AWS entered the *GSM Consent Decree* on October 9, 2002, it had invested significant resources, as had Grayson, in evaluating the feasibility of the GSM TDOA location technology. That analysis of both the overall technical feasibility of the solution and the developmental work necessary was communicated to the Commission during the *GSM Consent Decree* negotiations, and became the basis of the performance milestones contained in the final decree. Since early October, the AWS and Grayson technical teams have discovered, analyzed, and overcome numerous technical challenges – many of which were unanticipated in nature and scope – in integrating Grayson's TDOA technology with the AWS Nokia and Ericsson GSM networks.[4] All of these

[4] These difficulties involved AMU call detection on handover in the lab; support for automatic reconfiguration of the Abis Signaling links; T3 splitter solutions, antenna

issues have either been resolved or are on track towards resolution, along with the AMU issues described above.

Although AWS will not be able to validate fully the Grayson location technology on its network until the Grayson equipment and software problems discussed above are more fully resolved, AWS has continued to take all steps possible to satisfy its June 30, 2003 "in-service" benchmark. In accordance with the *GSM Consent Decree*, AWS has prioritized Phase II deployments and integration to the extent possible by the date on which it received the PSAP request, and it has attempted to schedule integrations first in locations in which Phase II service is operational on AWS' TDMA network. Further, since Grayson made the WLS units available in January, AWS has been installing them, along with base release software, at a rapid pace. AWS met the March 31, 2003 deployment benchmark, and it is on track to satisfy the June 30, 2003, 4,000 cell site deployment benchmark as well. AWS also has started replacing its TDMA-only WLS units with TDMA/GSM units in order to expedite Phase II availability on its GSM network.

As noted above, FOA testing has been ongoing on both AWS' Nokia and Ericsson infrastructures since early March and, even though the software problems have not been cured, AWS has installed AMUs in five markets in addition to the two needed for the FOAs. AWS also has ordered the circuits required to connect the AMUs to the AWS network and, apart from Grayson's pending software changes, the AMUs have been enabled for operation. Once the final AMU operating software is downloaded, AWS can begin integrating and conducting final integration testing with the requesting PSAPs.

III. THE GRAYSON SOFTWARE PROBLEMS COULD JEOPARDIZE AWS' ABILITY TO MEET THE 2,000 CELL SITE IN-SERVICE BENCHMARK

Although, as described above, AWS has expended significant resources in order to meet the June 30, 2003 in-service benchmark, Grayson's difficulties in developing and delivering compliant software have hindered AWS' ability to conduct PSAP integration by severely compressing the time interval in which integration must occur. Even if the Nokia FOA is concluded satisfactorily in the immediate future, and even if AWS and Grayson are able to devise a practical solution for the Ericsson infrastructure, AWS continues to face extraordinary integration challenges. The less than one-month period remaining leaves no margin for any unforeseen problems – either on the PSAP or AWS side of the E911 network – or for additional vendor delays. It is AWS' experience, moreover, that integration testing regularly reveals issues that require resolution, some

sharing; support of frequency hopping configurations; T1 and T3 card stability; T1 solution high bit error rates; and coprocessor functions.

small and others quite complicated. AWS will continue to work assiduously on all fronts to meet the June 30, 2003 benchmark, but it is submitting this Interim Report to inform the Commission that AWS is facing a serious challenge in its efforts to comply with the requirement that it "provide Phase II service at 2,000 [cell sites]" on its GSM network by that date.

AWS will continue to update the Commission about any new developments in this matter. In the interim, please do not hesitate to contact the undersigned if you have any questions.

Sincerely,

/s/ Douglas I. Brandon

Douglas I. Brandon

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